



**NIEHS Superfund Basic Research Program, Division of Extramural Research and Training,
Announces the**

Karen Wetterhahn Memorial Awardee Seminar

"Phytostabilization: A Common Sense Approach to the Remediation of Mine Tailings"

by Monica O. Mendez

**Department of Soil, Water, and Environmental Science
University of Arizona**

Monday September 27, 2004

11:00am-12:00pm

**National Institute of Environmental Health Sciences
National Institutes of Health, DHHS**

**Rall Building, Rodbell Conference Room B
111 T.W. Alexander Drive RTP, NC 27709**

Mine tailings are an environmental problem throughout the U.S. and have severe ecological impacts. Many of these sites are found in semi-arid and arid regions of the U.S. where the problems associated with these sites differ from those in more temperate regions. Specifically, in semi-arid and arid regions, acid mine drainage is of less importance while movement of tailings via wind and water erosion is a much larger issue. Phytostabilization, an approach to remediation of these mine tailings sites will be discussed. Our research site is the Klondyke Mine Tailings Site, located on the eastern bank of Aravaipa Creek in Graham County, Arizona. This was primarily a lead and zinc processing operation from 1948 to 1958. Klondyke has two tailings piles each of which are barren of vegetation, have extremely low microbial counts, and are subject to wind and water erosion. Analysis of the tailings has shown high levels of lead, copper, zinc, and cadmium and low pH (pH 2-7). The objective of the Klondyke project is to examine the potential of *Atriplex lentiformis*, a native drought tolerant halophyte, as a candidate for phytostabilization of the mine tailings and the role of the microbial community in plant establishment.

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